

Notice of Allowability

Application No.

10/042,872

Applicant(s)

HANCOCK ET AL.

Examiner

Art Unit

Chih-Min Kam

1653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/26/04.
2. ☒ The allowed claim(s) is/are 1.
3. ☒ The drawings filed on 08 January 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 2/17/04.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

CHRISTOPHER S. F. LOW
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

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An **Examiner's Amendment** to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Examiner's Amendments to the Specification:

Please add the following paragraph after the title at page 1:

This application is a Continuation of U. S. Patent Application No. 09/604,864, filed June 27, 2000, now U. S. Patent 6,337,317.

Please replace paragraph [0022] at page 7 with the following paragraph:

In a first embodiment, the invention provides an isolated antimicrobial peptide having an amino acid sequence: WCFZ₅VCZ₂RGZ₃CRZ₂KCRR (SEQ ID NO:14), Z₂RWCFRVCYZ₃GZ₂CZ₃Z₅Z₂CR (SEQ ID NO:15), RRWCFZ₅VCZ₃RGZ₄CYZ₄Z₄CRZ₁ (SEQ ID NO:16), RZ₅WCZ₃Z₂Z₃CYRGFCZ₃Z₂Z₅CR (SEQ ID NO:17), RRWCZ₃RVCYZ₅GFCYRKCR (SEQ ID NO:18), and RRWCFRVCYRGZ₃FCYRKCR (SEQ ID NO:19); wherein Z₁ is a basic amino acid residue or no amino acid residue; Z₂ is a basic or aromatic residue, Z₃ is a basic amino acid residue, Z₄ is arginine, valine or alanine, and Z₅ is an aromatic or aliphatic amino acid residue.

Please replace paragraph [0037] at page 12 with the following paragraph:

The invention includes isolated polynucleotides encoding:

WCFZ₅VCZ₂RGZ₃CRZ₂KCRR (SEQ ID NO:14), Z₂RWCFRVCYZ₃GZ₂CZ₃Z₅Z₂CR (SEQ ID NO:15), RRWCFZ₅VCZ₃RGZ₄CYZ₄Z₄CRZ₁ (SEQ ID NO:16), RZ₅WCZ₃Z₂Z₃CYRGFCZ₃Z₂Z₅CR (SEQ ID NO:17), RRWCZ₃RVCYZ₅GFCYRKCR (SEQ ID NO:18), and RRWCFRVCYRGZ₃FCYRKCR (SEQ ID NO:19); wherein Z₁ is a basic amino acid residue or no amino acid residue; Z₂ is a basic or aromatic residue, Z₃ is a basic amino acid residue, Z₄ is arginine, valine or alanine, and Z₅ is an aromatic or aliphatic amino acid residue.

Please replace paragraph [0047] at page 15 with the following paragraph:

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The invention also provides a method of inhibiting the growth of bacteria comprising contacting the bacteria with an inhibiting effective amount of a peptide of the invention, including WCFZ₅VCZ₂RGZ₃CRZ₂KCRR (SEQ ID NO:14), Z₂RWCFRVCYZ₃GZ₂CZ₃Z₅Z₂CR (SEQ ID NO:15), RRWCFZ₅VCZ₃RGZ₄CYZ₄Z₄CRZ₁ (SEQ ID NO:16), RZ₅WCZ₃Z₂Z₃CYRGFCZ₃Z₂Z₅CR (SEQ ID NO:17), RRWCZ₃RVCYZ₅GFCYRKCR (SEQ ID NO:18), and RRWCFRVCYRGZ₃FCYRKCR (SEQ ID NO:19); wherein Z₁ is a basic amino acid residue or no amino acid residue; Z₂ is a basic or aromatic residue, Z₃ is a basic amino acid residue, Z₄ is arginine, valine or alanine, and Z₅ is an aromatic or aliphatic amino acid residue.

Please replace TABLE 1 at pages 23-24 with the following TABLE 1:

TABLE 1

| Cells | PMI* | MIC (μg/ml) | | |
|---|-------|-------------|-------|------|
| | | SEQ ID NO: | | |
| | | 11 | 4 | 3 |
| <i>Escherichia coli</i> UB1005 | 0.125 | 0.25 | 0.25 | 0.25 |
| <i>E. coli</i> DC2 | 0.125 | 0.25 | 0.125 | 0.25 |
| <i>E. coli</i> KF130 | 0.125 | 0.25 | 0.125 | 0.25 |
| <i>Salmonella typhimurium</i> 14028s | 0.25 | 0.5 | 0.5 | 0.5 |
| <i>Pseudomonas aeruginosa</i> PAO1 | 0.25 | 1 | 1 | 2 |
| <i>P. aeruginosa</i> H374 | 0.25 | 0.5 | 0.5 | 2 |
| <i>P. aeruginosa</i> H744 | 0.25 | 1 | 1 | 2 |
| <i>Staphylococcus aureus</i> ATCC 25923 | 0.5 | 1 | 1 | 1 |
| <i>S. aureus</i> R147 | 0.5 | 1 | 1 | 1 |
| <i>S. aureus</i> SAP0017 | 0.5 | 1 | 1 | 1 |
| <i>Staphylococcus epidermidis</i> | 0.25 | 0.25 | 0.5 | 0.5 |
| <i>Enterococcus faecalis</i> | 0.25 | 0.5 | 0.25 | 0.5 |
| <i>Candida albicans</i> | 1 | 2 | 4 | 16 |
| Human Red Blood Cells | 21.3 | 42.6 | 85 | 85 |

*PMI = Plyphemusin I.

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Please replace TABLE 5 at page 32 with the following TABLE 5:

TABLE 1

| PEPTIDE | PMI | SEQ ID NO: | | |
|---|------|------------|-----|------|
| | | 11 | 4 | 3 |
| E _{max} (nm) (HEPES) | 356 | 356 | 354 | 353 |
| E _{max} (nm) (POPC/POPG) | 342 | 342 | 343 | 383 |
| Intensity change (fold) | 1.3 | 3.7 | 2.4 | 1.9 |
| Accessibility to quencher KI ^b | - | - | - | - |
| E _{max} in POPC (nm) | 353 | 354 | 353 | 350 |
| Intensity change (fold) | -0.5 | 0.7 | 1.5 | -0.7 |
| Accessibility to quencher KI ^b | + | + | + | + |

PMI = Plyphemusin I.

^b:-, the fluorescence of tryptophan residue could not be quenched by the aqueous quencher KI; +, the fluorescence of tryptophan residue was suppressed by the aqueous quencher KI in a concentration dependent manner.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Min Kam whose telephone number is (571) 272-0948. The examiner can normally be reached on 8.00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low can be reached on (571) 272-0951. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 308-4227 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

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Chih-Min Kam, Ph. D. *CMK*
Patent Examiner

February 17, 2004

Christopher S. F. Low
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SUPERVISORY PATENT EXAMINER
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